Complete Summary

GUIDELINE TITLE

Managing diabetes in the long-term care setting.

BIBLIOGRAPHIC SOURCE(S)

American Medical Directors Association (AMDA). Managing diabetes in the long-term care setting. Columbia (MD): American Medical Directors Association (AMDA); 2002. 51 p. [49 references]

GUIDELINE STATUS

This is the current release of the guideline.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

On January 5, 2006, GlaxoSmithKline and the U.S. Food and Drug Administration (FDA) notified healthcare professionals about post-marketing reports of new onset and worsening diabetic macular edema for patients receiving rosiglitazone. In the majority of these cases, the patients also reported concurrent peripheral edema. In some cases, the macular edema resolved or improved following discontinuation of therapy and in one case, macular edema resolved after dose reduction. See the FDA Web site for more information regarding rosiglitazone.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Type 2 diabetes mellitus
- Impaired fasting glucose (IFG)
- Impaired glucose tolerance (IGT)

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Endocrinology
Family Practice
Geriatrics
Internal Medicine
Nutrition

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Dietitians
Health Care Providers
Nurses
Occupational Therapists
Pharmacists
Physical Therapists
Physician Assistants
Physicians
Social Workers
Speech-Language Pathologists

GUIDELINE OBJECTIVE(S)

- To improve the quality of care delivered to patients with diabetes in long-term care settings
- To guide care decisions and to define roles and responsibilities of appropriate care staff

TARGET POPULATION

Elderly residents of long-term care facilities with diabetes

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Assessment

1. Blood glucose (initial assessment and ongoing monitoring of fasting blood glucose, postprandial glucose, and hemoglobin A1c)
2. Assessment of medical history, physical examination, and a review of medications and laboratory tests
3. Assessment of the nature and severity of diabetic complications

Treatment/Management of Diabetes

1. Individualized care plan
2. Lifestyle modification, including diet and exercise
3. Oral antidiabetic agents
    - Sulfonylureas (e.g., glipizide [Glucotrol] and glyburide [Diabeta])
    - Alpha-glucosidase inhibitors (e.g., acarbose [Precose] and miglitol [Glyset])
    - Thiazolidinediones (e.g., rosiglitazone [Avandia] and pioglitazone [Actos])
    - Meglitinides (shorter-acting insulin secretagogues; e.g., repaglinide [Prandin] and nateglinide [Starlix])
    - Biguanides (e.g., metformin [Glucophage])
4. Combination oral therapy
5. Insulin therapy, including rapid-acting (e.g., Lispro [Humalog "H"], Insulin Aspart), short-acting (Insulin Regular), intermediate-acting (NPH Insulin, Lente Insulin), long-acting (Ultralente, Insulin glargine), premixed combination insulins, and insulins from animal sources

Treatment of Hypoglycemia

1. Carbohydrate in the form of glucose, sucrose tablet or juice combined with light snack containing protein
2. Oral glucose paste
3. Intramuscular glucagon
4. Intravenous 50% dextrose

Prevention and Treatment of Diabetic Complications

1. Foot care
    - At-risk foot -- routine podiatric care; daily foot care by patient and caregivers
    - Current mild infection or ulcer -- local dressings; baseline X-ray for bone integrity or osteomyelitis; podiatry or wound care referral as needed
    - Limb-threatening ulcer or infection -- hospitalization; referral to podiatry or vascular surgery
2. Eye care
    - Assessment for eye infections and eye pain
    - Comprehensive dilated eye examination if appropriate
    - Control of blood glucose, hypertension, and proteinurea
3. Oral care
    - Assessment for mouth infection, mouth pain, or eating difficulties
    - Dental services if indicated

- Dietitian consultation if needed
- Prophylactic antibiotics

4. Control of hypertension
    - Angiotensin-converting enzyme (ACE) inhibitors
    - Angiotensin receptor blockers (ARBs)
5. Management of diabetic nephropathy
    - Protein-restricted diet
    - Control of blood glucose and hypertension
    - Angiotensin-converting enzyme inhibitors, angiotensin receptor blockers
    - Nephrologist consultation
6. Management of diabetic neuropathy
7. Management of dyslipidemia
    - Control of blood glucose
    - Lipid-lowering medication if appropriate
    - Note: Dietary restriction is not recommended in frail elderly patients
8. Management of cardiovascular disease
    - Assessment of cardiovascular complications using electrocardiogram, echocardiogram, chest X-ray, arterial doppler studies of the legs, cognitive testing, computed tomography (CT), and brain magnetic resonance imaging (MRI)
    - Enteric-coated aspirin
    - Clopidogrel or aspirin/extended release dipyridamole
    - Beta-blockers

Immunization

1. Influenza vaccine
2. Pneumococcal vaccine

MAJOR OUTCOMES CONSIDERED

- Prevalence of diabetes in the long-term care setting
- Complications of diabetes
- Barriers to optimal management of diabetes in the long-term care setting
- Quality of life
- Adverse effects and complications of treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The guideline was developed by an interdisciplinary work group using a process that combined evidence- and consensus-based thinking. The groups were composed of practitioners involved in patient care in the institutional setting. Using pertinent articles and information and a draft outline, the group worked to make a simple, user-friendly guideline that focused on application in the long-term care institutional setting.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

All American Medical Director Association (AMDA) clinical practice guidelines undergo external review. The draft guideline is sent to approximately 175+ reviewers. These reviewers include American Medical Director Association physician members and independent physicians, specialists, and organizations that are knowledgeable of the guideline topic and the long-term care setting.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The Managing Diabetes in the Long Term Care Setting algorithm is to be used in conjunction with the clinical practice guideline. The numbers next to the different components of the algorithm correspond with the steps in the text. Refer to the "Guideline Availability" field for information on obtaining the full text guideline.

CLINICAL ALGORITHM(S)

An algorithm is provided in the original guideline document that summarizes the steps involved in Managing Diabetes in the Long Term Care Setting.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The guideline was developed by an interdisciplinary work group using a process that combined evidence- and consensus-based thinking.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Potential benefits associated with the implementation of this guideline include the following:

- Greater individualization of care
- Enhanced quality of life
- Earlier identification of diabetes and its complications
- Better documentation of, and rationale for, patients´ personal goals and decision-making processes regarding their disease and its treatment
- A decline in the rate of hypoglycemic and hyperglycemic events
- A decline in the frequency of infection, electrolyte imbalance, and dehydration
- A decline in the rate of development or progression of diabetic complications
- A reduction in emergency room visits and hospitalizations caused by uncontrolled diabetes
- A reduction in direct and indirect patient care costs as a result of more appropriate resource utilization
- Improved monitoring and treatment protocols
- Improved staff education and awareness of this complex progressive disease

POTENTIAL HARMS

Adverse effects of drugs used to treat diabetes and diabetic complications including hypoglycemia, weight gain, gastrointestinal side effects, liver toxicity, increased level of low-density lipoprotein (LDL) cholesterol, and weight loss.

CONTRAINDICATIONS

CONTRAINDICATIONS

- Patients with renal, cardiac, or liver problems should not take the older sulfonylureas.
- Chlorpropamide should be avoided in the elderly.
- Patients with liver enzyme levels more than 50% above the upper limit as well as those with moderately severe congestive heart failure (CHF) should not take thiazolidinediones.
- Metformin is contraindicated in diabetic patients with impaired renal function because it may cause lactic acidosis. It is not recommended for men whose creatinine is >1.5 mg/dL, women whose creatinine is >1.4 mg/dL, or for individuals with abnormal creatinine clearance. For this reason, it is not recommended for patients aged over 80. Metformin must be discontinued for at least 48 hours before and after contrast-enhanced radiologic studies.
- Angiotensin-converting enzyme (ACE) inhibitors are contraindicated in patients with more than minimal renal insufficiency.
- Antiplatelet therapy is contraindicated in patients with allergy, bleeding tendency, anticoagulation therapy, recent gastrointestinal bleeding, and active liver disease.

QUALIFYING STATEMENTS

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- This clinical practice guideline is provided for discussion and educational purposes only and should not be used or in any way relied upon without consultation with and supervision of a qualified physician based on the case history and medical condition of a particular patient. The American Medical Directors Association, its heirs, executors, administrators, successors, and assigns hereby disclaim any and all liability for damages of whatever kind resulting from the use, negligent or otherwise, of this clinical practice guideline.
- It is important to note that there is little information from randomized controlled studies on the benefits of improved glucose control in long-term care populations. Hence, it is difficult to extrapolate conclusions from studies of community-dwelling adults with type 2 diabetes to the frail elderly in long-term care facilities, who generally have shorter life expectancies. In this context, it is extremely important to take patient preferences and values into account when approaching diabetes management.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The implementation of this clinical practice guideline (CPG) is outlined in four phases. Each phase presents a series of steps, which should be carried out in the process of implementing the practices presented in this guideline. Each phase is summarized below.

I. Recognition
- Define the area of improvement and determine if there is a CPG available for the defined area. Then evaluate the pertinence and feasibility of implementing the CPG.

II. Assessment
- Define the functions necessary for implementation and then educate and train staff. Assess and document performance and outcome indicators and then develop a system to measure outcomes.

III. Implementation
- Identify and document how each step of the CPG will be carried out and develop an implementation timetable.
- Identify individual responsible for each step of the CPG.
- Identify support systems that impact the direct care.
- Educate and train appropriate individuals in specific CPG implementation and then implement the CPG.

IV. Monitoring
- Evaluate performance based on relevant indicators and identify areas for improvement.
- Evaluate the predefined performance measures and obtain and provide feedback.

Implementation of guidelines will be affected by resources available in the facility, including staffing, and will require the involvement of all those in the facility who have a role in patient care. In addition, those responsible for implementation should identify operational areas within the facility that would be affected by the guideline's implementation and should seek input from staff and managers in those areas on the development of other relevant facility-specific protocols, policies, and procedures.

The Appendix of the original guideline document offers suggestions for general process indicators as well as clinical process and outcome indicators specific to measuring facility performance in the management of diabetes.

IMPLEMENTATION TOOLS

Clinical Algorithm

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

End of Life Care
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety
Timeliness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Medical Directors Association (AMDA). Managing diabetes in the long-term care setting. Columbia (MD): American Medical Directors Association (AMDA); 2002. 51 p. [49 references]

ADAPTATION

Not applicable: Guideline was not adapted from another source.

DATE RELEASED

2002

GUIDELINE DEVELOPER(S)

American Medical Directors Association - Professional Association

GUIDELINE DEVELOPER COMMENT

Organizational participants included:

- American Association of Homes and Services for the Aging
- American College of Health Care Administrators
- American Health Care Association
- American Society of Consultant Pharmacists
- National Association of Directors of Nursing Administration in Long-Term Care
- National Association of Geriatric Nursing Assistants
- National Conference of Gerontological Nurse Practitioners

SOURCE(S) OF FUNDING

Corporate supporters of this guideline include Aventis Pharmaceuticals, Forest Laboratories, Inc, GlaxoSmithKline, Janssen Eldercare, LifeScan, Novartis Pharmaceuticals, Pfizer, Inc, Pharmacia Corporation, and Organon, Inc.

GUIDELINE COMMITTEE

Steering Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the American Medical Directors Association, 10480 Little Patuxent Pkwy., Suite 760, Columbia, MD 21044. Telephone: (800) 876-2632 or (410) 740-9743; Fax (410) 740-4572. Web site: www.amda.com.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Guideline implementation: clinical practice guidelines. Columbia, MD: American Medical Directors Association, 1998, 28 p.

Electronic copies: Not available at this time.

Print and CDROM copies: Available from the American Medical Directors Association, 10480 Little Patuxent Pkwy., Suite 760, Columbia, MD 21044. Telephone: (800) 876-2632 or (410) 740-9743; Fax (410) 740-4572. Web site: www.amda.com.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on September 3, 2003. The information was verified by the guideline developer on April 8, 2004. This summary was updated by ECRI on January 11, 2006 following the U.S. Food and Drug Administration advisory on rosiglitazone.

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